

# M R

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## مدرس خصوصي

حضورى

اونلاين

بحصل الطالب علي

مقاطع فيديو هات لشرح المقرر بشكل وافي

ملخص للمادة Pdf للمذكرة واطراجة

محاضرات مباشرة علي برنامج زووم

مناقشة الأجزاء الغير مفهومة

تواصل مستمر مع معلم المادة

للتواصل

0567630097

0565657741

|                  |              |
|------------------|--------------|
| فيزياء           | استاتيكا     |
| دوائر كهربية     | الالكترونيات |
| ميكانيكا الانشآت | هيدروليكا    |



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

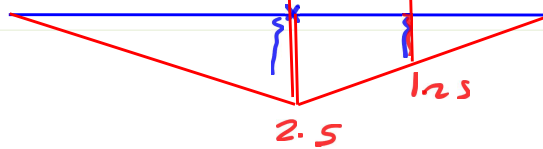
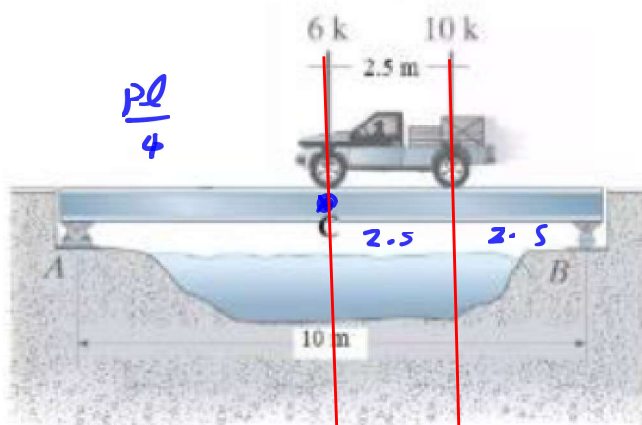
## Structure Analysis 1

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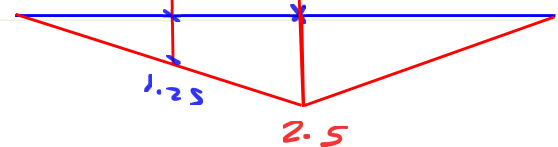
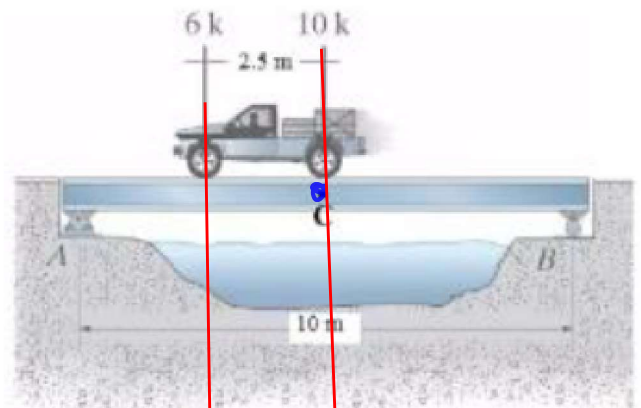
### Influence Line for Statically Determinate Structures

#### Example 8

Determine the moment at C in the two cases



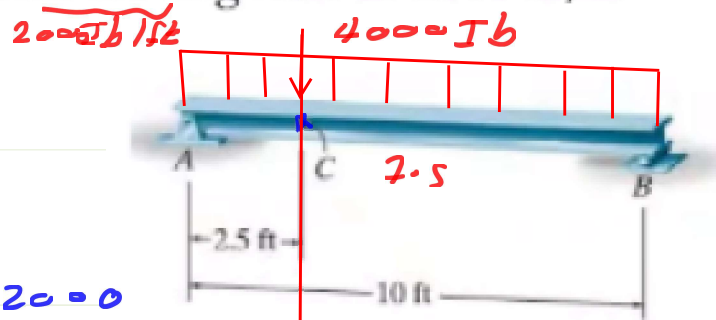
$$M_C = 6(2.5) + 10(1.25) = 27.5 \text{ kN.m}$$



$$M_C = 10(2.5) + 6(1.25) = 32.5 \text{ kN.m}$$

# Example 9

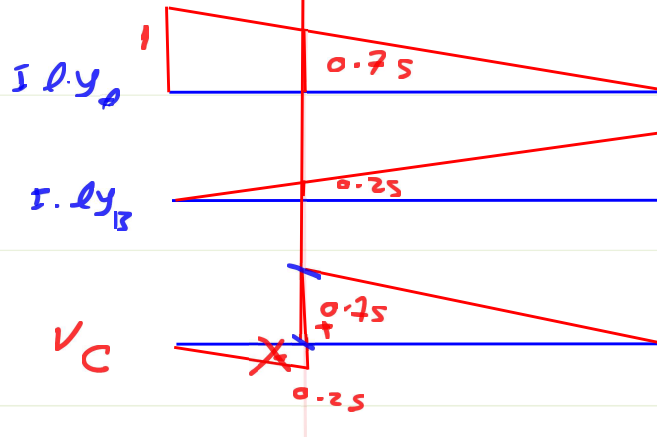
Determine the maximum positive shear that can be developed at point C in the beam shown due to a concentrated moving load of 4000 lb and a uniform moving load of 2000 lb/ft



$$V_{C_1} = 4000 \times 0.75$$

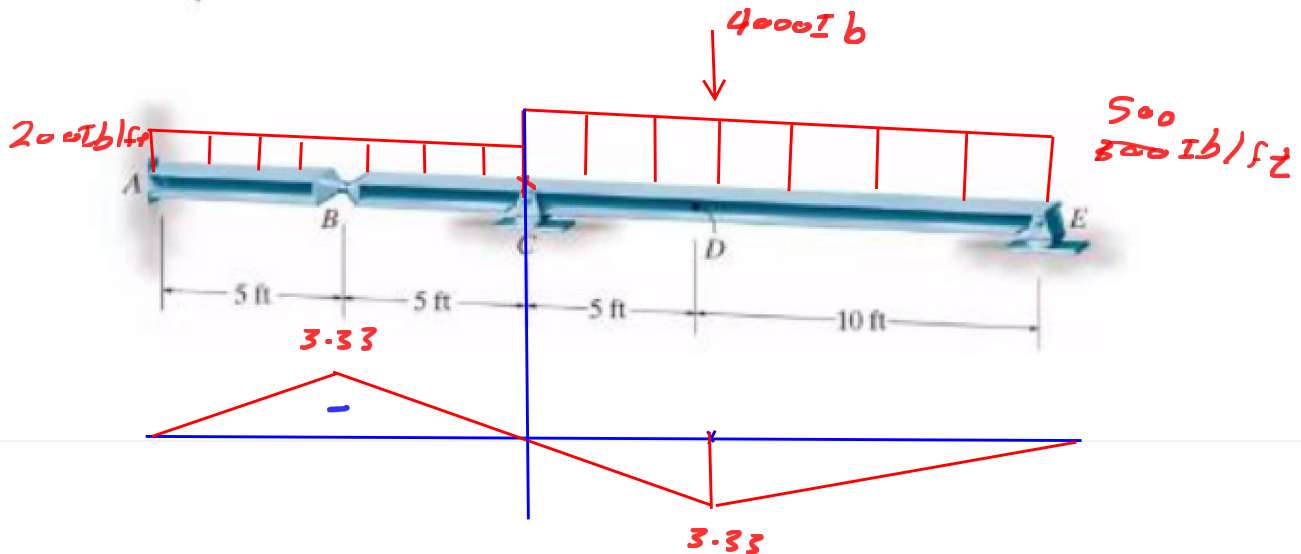
$$V_{C_2} = (0.5 \times 7.5 \times 0.75) \times 2000$$

$$V_C = 8625 \text{ lb}$$



## Example 7-Continue

Determine the maximum positive moment that can be developed at point  $D$  in the beam shown in Fig. 6-19a due to a concentrated moving load of 4000 lb, a uniform moving load of 300 lb/ft, and a beam weight of 200 lb/ft.



$$\begin{aligned}
 M_D &= 4000 \times 3.33 - 0.5 \times 10 \times 3.33 \times 200 + 0.5 \times 15 \times 3.33 \times 500 \\
 &= 22500 \text{ lb}\cdot\text{ft} = 22.5 \text{ kip}\cdot\text{ft}
 \end{aligned}$$